BRFSS Behavioral Risk Factor Surveillance System
MONTANA Fact[or]s
Issue 2 2013

Montana Behavioral Risk Factor Surveillance System (BRFSS) Celebrates Thirty Years of Monitoring the Health of Adults

INTRODUCTION

The Behavioral Risk Factor Surveillance System (BRFSS) is a national system of state-based telephone surveys established in 1984 by the Centers for Disease Control and Prevention (CDC).[1] The 2013 survey year marks its 30th anniversary. Montana was one of the first 15 states to participate. By 1993, the BRFSS was adopted by all 50 states and several territories to gather information on health risk behaviors, clinical preventive health practices, and health care access. Currently, more than 500,000 interviews from representative state samples of non-institutionalized adults ages 18 and older are completed each year, making the BRFSS the largest and longest-running system of telephone health surveys in the world. This issue of Montana Fact[or]s highlights some of the results and uses of BRFSS. Results from this public health surveillance system show both public health successes and challenges still to be met.

USES OF BRFSS

States use BRFSS data to identify emerging health problems; establish and track health objectives; develop and evaluate public health programs and policies; and help focus public health resources where they are most needed. For most states, BRFSS is the only source of state-based health behavior data for the adult population.

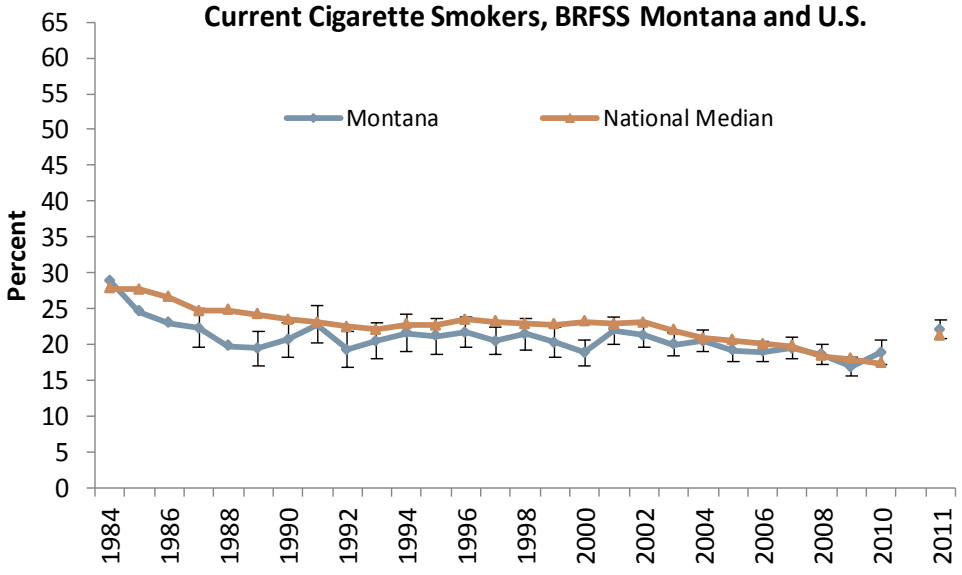
In Montana, BRFSS has been used to:

- **Measure Trends in Health-related Behaviors**

From the inception of the BRFSS, topics have been added or removed in response to evolving public health concerns.[2] In addition, BRFSS allows states to add questions of their own choosing to gather information to improve public health practices of the state. Some questions have remained the same or changed minimally which allows a comparison of health behaviors over the years. Note a break in the trend line with the 2011 data indicates a new analytic weighting methodology.[3]

⇒ ***Example: Current Smokers—a persistent challenge***

Smoking is a major risk factor for many chronic conditions including respiratory illness, cancers, and cardiovascular

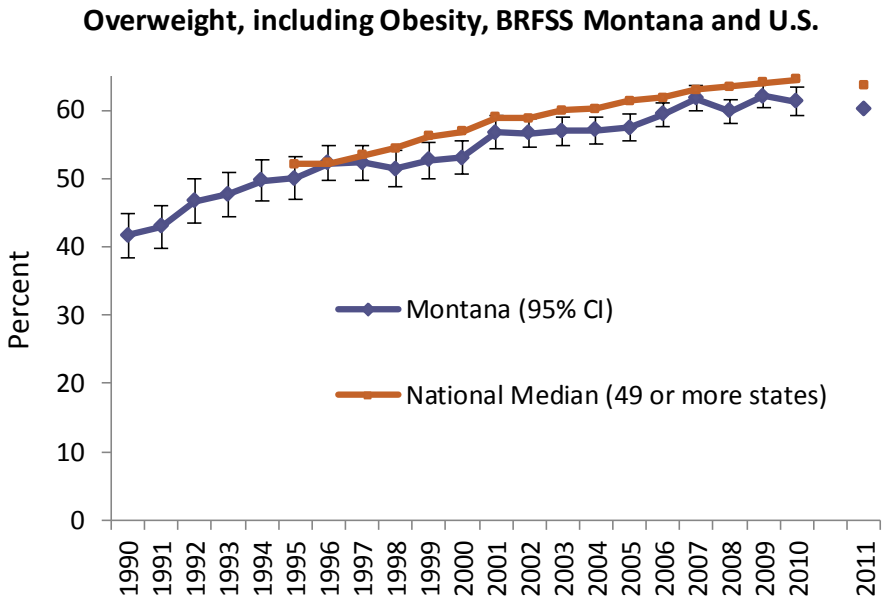


diseases. Smoking continues to be the leading preventable cause of premature death in the United States and in Montana.[4]

Current smoking status is defined as ever having smoked 100 cigarettes (five packs) and smoking cigarettes now, either every day or on some days. The percentage of current smokers has declined only slightly since measurement by the BRFSS began.

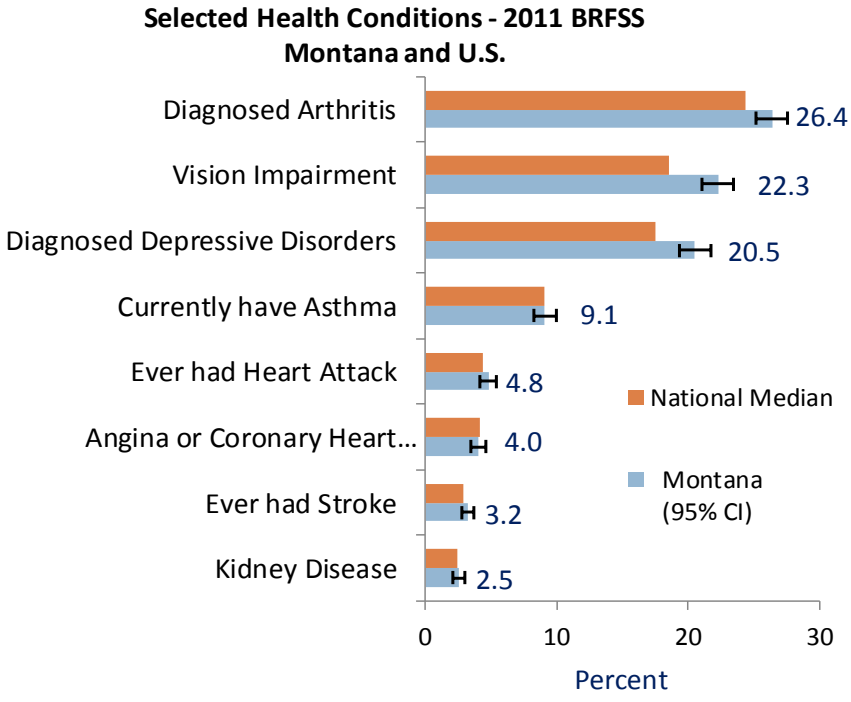
⇒ ***Example: Obesity—a challenge to be met***

Obesity is measured using a respondent's self-reported height and weight to calculate the Body Mass Index (BMI). A BMI between 25 and less than 30 is classified as overweight and a BMI ≥30 is classified as obese.[5] Reflecting national trends the prevalence of being overweight, including obese has increased significantly over time, although Montana's prevalence is slightly lower. The long-term public health goal is to stabilize and eventually decrease the prevalence of overweight and obesity in Montana.



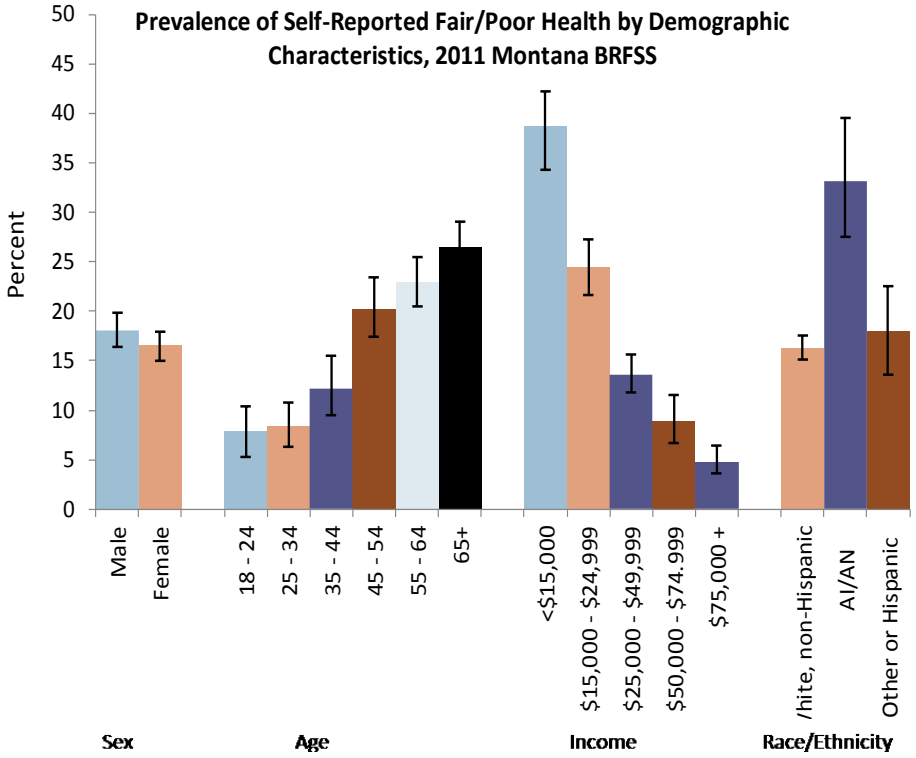
♦ Assess the Prevalence of Chronic Conditions

Few states have statewide disease registries that capture information about diagnosed chronic diseases, apart from cancer registries. The BRFSS gathers information on self-reported health conditions such as arthritis, asthma, cardiovascular disease, diabetes, or depressive disorders. Montana adults report higher percentages of diagnosed depressive disorders, vision impairments, and doctor-diagnosed arthritis than the majority of states in the country in 2011.



♦ Identify Demographic Differences in Health

Data from BRFSS provide details of the population needs, identifying disparities in health by socio-demographic conditions such as age, race, sex, education, income, marital status, disability status, or geographic location of residence. This figure illustrates the sociodemographic differences of perceived health status for Montana residents and gradients by age and income levels.

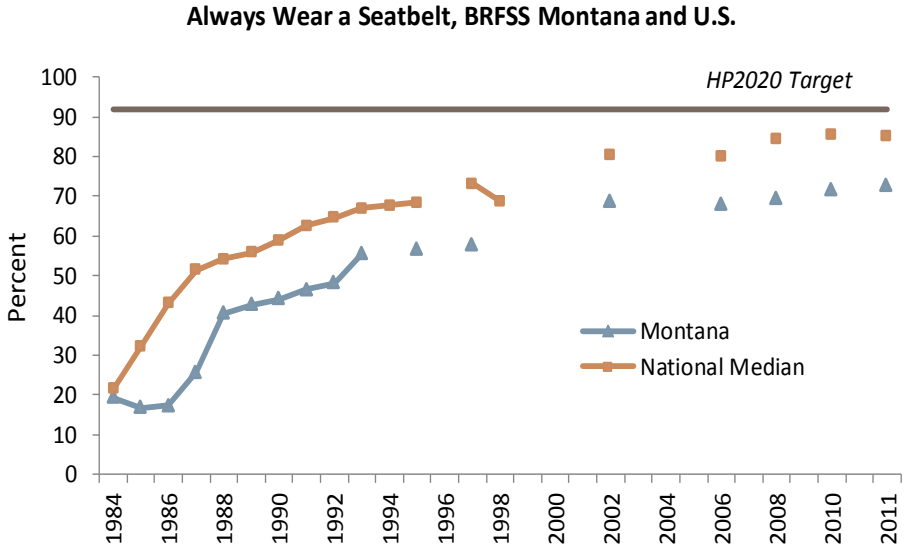


♦ Measure Progress Toward State and National Health

The BRFS system is useful to measure progress toward *Healthy People 2020 (HP2020)* objectives for the nation and allows state-to-state comparisons of results from standardized questions.[6]

⇒ ***Example Seatbelt Use—some success and remaining challenges***

Many events resulting in injury, disability, or premature death are preventable. Increasing the use of safety belts has been an important public health issue since the early 1980s when states began awareness campaigns and passed legislation mandating seatbelt use. In October 1987, Montana mandated the use of seatbelts for all persons 6 years of age and older in all seats of the vehicle.[7]



However, many Montanans remain at risk. Montana adults are more than 10 percentage points below the national median for all states and almost 20 percentage points below the *HP2020* targeted seatbelt use of 92% of the adult population always wearing seatbelts while in a motor vehicle. Strengthening and better enforcing motor vehicle safety policies can reduce injuries and save lives.[8,9]

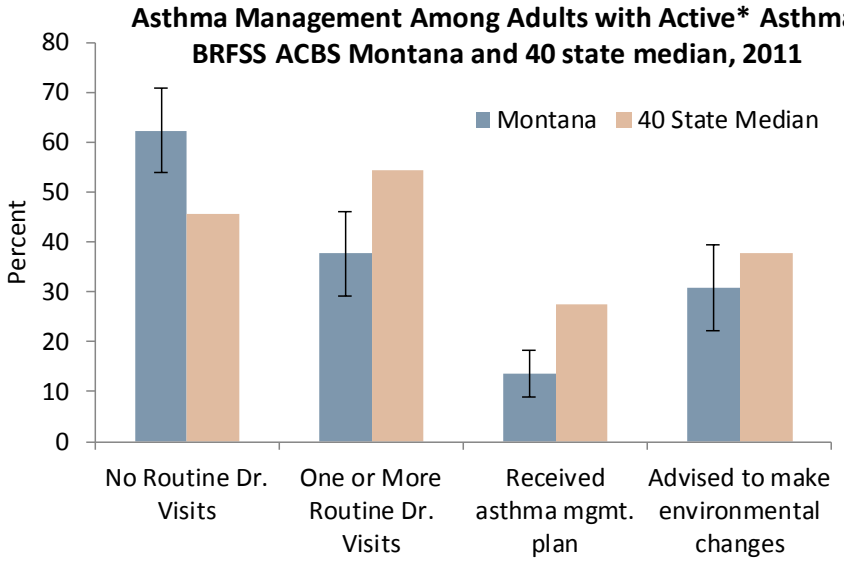
♦ Design and Monitor Health Interventions

Key data are used for the development of state chronic disease prevention plans and successful CDC grants awarded to the state to help prevent and manage chronic health conditions. BRFSS data are also used to assess health screening practices among adults for use by immunization, cancer, diabetes, cardiovascular health, and HIV disease prevention and health promotion efforts.

⇒ ***Example Asthma Call-back Survey (ACBS) - responsive to state needs***

BRFSS data are used to assess asthma prevalence and management through the adult and child asthma callback surveys. Participants are recruited from the BRFSS survey to participate in a follow-up ACBS if they indicate that they or one of the children in their household either had or currently have asthma. Several states have participated in this unique data collection process since 2006 for assessing the burden and management of asthma, including the use of asthma medications, routine medical visits, and recommended asthma management plans or environmental changes.

The Montana Asthma Control Program (MACP) strives to improve the quality of life for all Montanans with asthma. This program offers support to Montana providers free of charge through the Asthma Care Monitoring System (ACMS), an IT system that allows them to track their patients' levels of control, exacerbations, medications, and other clinically useful data at each visit.[10]

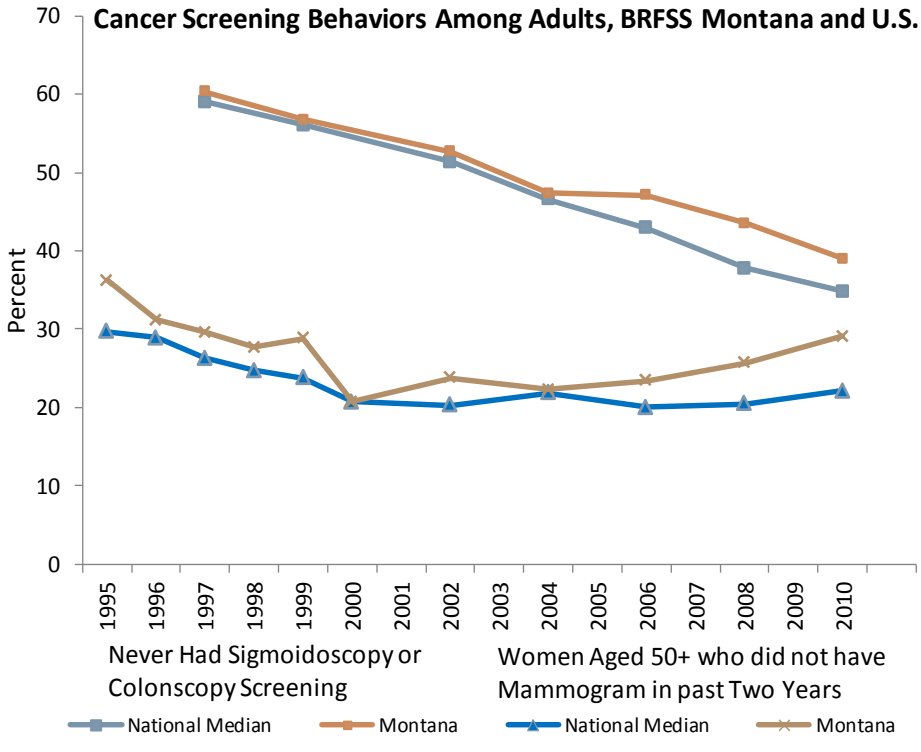


**Reported any of the following during the past year: asthma medication use, asthma symptoms, or MD visits for asthma*

⇒ ***Example Cancer Screening Behaviors - some successes, more challenges to be met***

Early detection of cancer or removal of pre-cancerous polyps or tumors can reduce mortality from cancer. It is recommended that adults aged 50 to 75 years be screened for colorectal cancer by a fecal occult blood test (FOBT) once a year, a sigmoidoscopy every 5 years, or a colonoscopy every 10 years.[11] Adults who are at high risk should talk to their healthcare provider about screening earlier than age 50.[12] The data show substantial improvement over time for colorectal cancer screening, but more than 1 in 3 Montana adults aged 50 and older have never been screened.

The United States Preventive Services Task Force (USPSTF) recommends that women at *average risk* for breast cancer have a screening mammography every two years between the ages of 50 and 74 years.[13] Women at elevated risk for breast cancer should consult their healthcare provider about earlier and more frequent screening.[14] The reported proportion of Montana women aged 50 years and older who did not meet the recommended mammogram screening in the past two year is greater than the national median and the gap appears to be widening.



♦ **Formulate Policy for Health Initiatives**

BRFSS is prepared to provide local, state, and federal public health officials with vital information to help guide decision making and planning.

⇒ ***Influenza Vaccination Coverage— a continuing challenge***

In 2009, 45 states began using the BRFSS pandemic influenza module and all states collect vaccination data that are submitted to CDC monthly during the influenza seasons. Monitoring influenza vaccination coverage is a critical element of CDC's response to a pandemic influenza outbreak. BRFSS, along with other surveillance systems, helps respond by collecting timely information about the population. Montana ranked in the bottom fifth of states in the 2011-2012 influenza season for vaccination coverage of adults and children based on results from BRFSS and the National Immunization Survey (NIS), respectively.[15]

State-level Influenza Vaccination Coverage Estimates for the 2011-2012 Season, United States and Montana†, August 2011 through May 2012, All Persons ≥ 6 months of age.

Group	Region	%‡	95% CI§	Difference from U.S. Mean
All Persons				
≥6 months	United States	41.8	±0.4	
	Montana	36.8	±1.8	-5.0
Children *(NIS)				
6mos-17 yrs	United States	51.5	±1.0	
	Montana	42.4	±4.6	-9.1
6mos-4 yrs	United States	67.6	±1.7	
	Montana	58.0	±9.1	-9.6
5-12 yrs	United States	54.2	±1.4	
	Montana	44.2	±6.4	-10.0
13-17 yrs	United States	33.7	±1.6	
	Montana	27.5	±6.1	-6.2
Adults *(BRFSS)				
≥18 yrs	United States	38.8	±0.4	
	Montana	35.3	±2.0	-3.5
18-64 yrs	United States	33.1	±0.6	
	Montana	29.3	±2.4	-3.0
18-64 yrs high risk¥	United States	45.2	±1.2	
	Montana	42.8	±6.9	-2.4
18-49 yrs	United States	28.6	±0.6	
	Montana	25.6	±2.9	-3.0
18-49 yrs high risk¥	United States	36.8	±2.0	
	Montana	37.2	±9.6	0.4
50-64 yrs	United States	42.7	±0.8	
	Montana	36.2	±3.7	-6.5
≥65 yrs	United States	64.9	±0.8	
	Montana	59.8	±3.7	-5.1

* From Behavioral Risk Factor Surveillance System (BRFSS) and National Immunization Survey (NIS). Coverage estimates are for persons interviewed September 2011 through June 2012 who reported being vaccinated August 2011 through May 2012. See the final online report for further data analysis description. Available at: http://www.cdc.gov/flu/professionals/vaccination/reporti1112/reportii/index.htm

† Excludes U.S. territories.

‡ Month of vaccination was imputed for respondents with missing month of vaccination data. Percentages are weighted to the non-institutionalized, U.S. civilian population.

§ 95% confidence interval half-width.

¥Selected high-risk conditions. Includes people with asthma, diabetes or heart disease.

CONCLUSION AND FUTURE DIRECTIONS

The mission of the Public Health and Safety Division of DPHHS is to improve and protect the health of Montanans by creating conditions for healthy living. Surveillance systems such as BRFSS are an essential part of any effort to promote health and prevent disease. In Montana, BRFSS

- Helps define benchmarks for Montana's state health assessment and state health improvement plans; [8,16]
- Supports local public health community health assessment initiatives,[17] and
- Provides state, regional, and some county level data for the public health accreditation processes throughout the state.[18]

The Montana BRFSS has changed over its first 30 years to better meet the health information needs of the state. In the first year, 855 Montana adults were interviewed and the survey gathered information on 11 health topics with 45 questions. In 2011, more than 10,000 Montana adults were interviewed, providing information on 29 topics for not only the state, but also for 5 health planning regions and 7 metropolitan/

micropolitan statistical areas (MMSA) for comparison with other MMSAs throughout the nation through the BRFSS Selected Metropolitan/Micropolitan Area Risk Trend (SMART) system.[19]

In 2011, BRFSS introduced two changes in survey methodology in order to reduce bias and more accurately reflect population data.[4] The two survey improvements are the addition of cell phone interviews and a weighting method called raking that adjusts the samples using more socio-demographic characteristics and allows for the inclusion of cell phone responses so that the data provide more representative estimates of the Montana adult population. There will continue to be a need for state-level information on health behaviors and health conditions to allow public health agencies to monitor the health and safety of Montana residents, to plan programs and focus resources. BRFSS continues to be on the cutting-edge of telephone survey methodology and is the gold standard in state-based behavioral surveillance.

Background: *The Montana Behavioral Risk Factor Surveillance System (BRFSS) has been collecting and reporting state-specific, population-based estimates of health-related data since 1984. The purpose of this statewide telephone survey of Montana residents aged 18 and older is to gather information regarding personal health risk behaviors, selected medical conditions, and the prevalence of preventive health care practices among Montana adults. A full set of Montana yearly questionnaires and health indicators can be found on the Department of Public Health and Human Services (DPHHS) BRFSS database query system website at* ***www.brfss.mt.gov.*** *The CDC website also provides national, state, and some local area prevalence estimates of health indicators, as well as access to downloadable datasets for further analyses at:* ***www.cdc.gov/brfss.***

Survey Limitations: *The BRFSS relies on self-reported data. This type of survey has certain limitations: many times, respondents have the tendency to underreport some behaviors that may be considered socially unacceptable (e.g., smoking, heavy alcohol use); conversely, respondents may over report behaviors that are desirable (e.g., physical activity, nutrition). Cross-sectional design makes causal conclusions impossible. In addition, the sample sizes used to calculate the estimates in this report vary as respondents who indicated, "don't know," "not sure," or "refused" were excluded from most of the calculation of prevalence estimates. BRFSS data collected through 2010 excludes households without landline telephones.*

Acknowledgements: *The Montana BRFSS Office staff gratefully acknowledges the efforts of the Montana residents who took the time to respond to the telephone interviews conducted for this system. The Montana BRFSS is conducted through a Cooperative Agreement between the Centers for Disease Control and Prevention and the Montana Department of Public Health and Human Services. This publication was supported by CDC Cooperative Agreement #SO11-110101CONT11. Alternative formats of this document will be provided upon request. Please contact Dr. Joanne Oreskovich, MT BRFSS Director (444-2973). The contents are solely the responsibility of the authors and do not necessarily represent the official views of CDC.*

Suggested citation: Oreskovich J. Montana Behavioral Risk Factor Surveillance System (BRFSS) Celebrates Thirty Years of Monitoring the Health of Adults, *Montana Fact[or]s*, No.2 2013, DPHHS: Helena, MT. August, 2013.

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